

REPORT NUMBER HQDLR-19-401-002

SAFETY COMPLIANCE TESTING FOR FMVSS NO. 401 INTERIOR TRUNK RELEASE

2018 TESLA 3
FOUR-DOOR PASSENGER CAR
NHTSA VEHICLE NO. C20194500

U.S. DOT HEADQUARTERS
1200 NEW JERSEY AVENUE SE
WASHINGTON, DC 20590



October 30, 2018

FINAL REPORT
PREPARED FOR

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NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
ENFORCEMENT
NEF-220
OFFICE OF VEHICLE SAFETY COMPLIANCE
1200 NEW JERSEY AVENUE, SE
WASHINGTON, D.C. 20590

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Prepared By: Kerri Bessant

Approved By: Kerri Bessant

Accepted By: Kerri Bessant

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SECTION 1

INTRODUCTION

1.1 PURPOSE OF COMPLIANCE TEST

A 2018 Tesla 3 4-Door Passenger Car was tested to determine if the vehicle was in compliance with the requirements of FMVSS NO. 401. All tests were conducted in accordance with NHTSA/Office of Vehicle Safety Compliance (OVSC) Laboratory Test Procedure TP-401-01 dated August 8, 2007.

1.2 TEST VEHICLE

The test vehicle was a 2018 Tesla 3 4-Door Passenger Car. Nomenclatures applicable to the test vehicle are:

A. Vehicle Identification Number: 5YJ3E1EAXJF056732

B. NHTSA Number: C20194500

C. Manufacturer: Tesla

D. Manufacture Date: 07/18

1.3 TEST DATE

The test vehicle was tested October 30, 2018.

SECTION 2

TEST PROCEDURE AND DISCUSSION OF RESULTS

2.1 TEST PROCEDURE

Prior to test, the test vehicle was inspected for completeness and systems operability, including battery capability and trunk closure function. The vehicle was then photographically documented as required by the NHTSA/OVSC Test Procedure. The owner's manual was reviewed, and pertinent trunk release information was noted.

The rear trunk manual release system vehicle tests were conducted with an occupant enclosed in the trunk compartment with the lid shut. An assistant was present and prepared to release the occupant if necessary. The compartment was evaluated with all removable equipment furnished by the manufacturer stowed in accordance with vehicle label instructions.

The procedure used consists of the following steps:

1. Determine the means by which a trapped person within the trunk would escape from the compartment, e.g. pull of a T-handled release mechanism, rotation of fixed lever release mechanism, push of a button, etc.
2. For informational purposes, install a linear force transducer to the release mechanism determined above in order to record the force required to be applied by the trapped occupant to escape.
3. Verify that the release mechanism is visible in the darkened trunk (S4.2(a)), and determine method used, e.g. phosphorescence or auxiliary lighting. Some time may be required to allow for the eyes to adjust to the darkened environment within the trunk compartment. Photograph if possible the lighted release mechanism.
4. With the vehicle stationary and no key in the ignition (representing unoccupied vehicle), actuate the release mechanism and verify that the trunk lid releases from all latching positions. Record force required during 3 attempts to release trunk latching mechanism.
5. Repeat step 4 above, except with the engine idling (time with trunk lid latched not to exceed 30 seconds).

2.2 DISCUSSION OF RESULTS

The force required to release the trunk lid did not exceed 13 Newtons on any attempt. The data indicate compliance of the test vehicle's manual trunk release system for the No Key in Ignition trunk release tests.

SECTION 3
TEST DATA

DATA SHEET 1
FMVSS NO. 401 – TEST DATA SUMMARY

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2018 Tesla 3 Passenger Car

VEHICLE NHTSA NUMBER: C20194500 VIN: 5YJ3E1EAXJF056732

GVWR: 2,180 kg, 4,806 lbs. DATE OF MANUFACTURE: 07/18

TEST LAB: Tesla Tysons Corner TEST DATE: October 30, 2018

	PASS/FAIL	COMMENTS
Automatic or Manual release mechanism inside the trunk compartment. S4.1	Pass	
If manual release, lighting feature is included. S4.2(a)	Pass	Phosphorescence
Except as provided by S4.3(b), actuation of release mechanism required by S4.1 completely releases trunk lid from all latching positions of the trunk lid latch. S4.3(a)	Pass	

REMARKS: In addition to the trunk which is the subject of this FMVSS testing, this Tesla vehicle also had a "Frunk" see "Figure 5.8." The Frunk reasonably appeared to be too small for a typical "adult" to fit in although a small child could most certainly fit inside of it. The Frunk contained a lighted electric button to allow for release internally. The Frunk mechanism was tested for actuation (trunk release) from outside and worked satisfactorily.

RECORDED BY: Joshua Campbell and Kerrin Bressant DATE: October 30, 2018

APPROVED BY: Kerrin Bressant

DATA SHEET 2
TEST PREPARATION INFORMATION

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2018 Tesla 3 4 Door Passenger Car

VEHICLE NHTSA NUMBER: C20194500 TEST DATE: October 30, 2018

TRUNK LOCATION: Rear

NUMBER OF TRUNK LATCHING POSITIONS: One

INTERIOR TRUNK RELEASE: Manual

EQUIPPED WITH POWER CLOSURE ASSISTING DEVICE: No

OWNER'S MANUAL DESCRIPTION OF TRUNK RELEASE: Yes

REMOVABLE EQUIPMENT DELIVERED IN TRUNK:

SPARE TIRE: Yes Size: T125/70R16

TIRE JACK: Yes

LUG WRENCH: Yes

OTHER: Charging equipment (see Figure 5.9)

REMARKS: Interior trunk release (manual) included a "Touch Screen."

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APPROVED BY: Kerrin Bressant

DATA SHEET 3 (Sheet 1 of 2)
MANUAL TRUNK RELEASE OPERATION

MODEL YEAR/MAKE/MODEL/BODY STYLE: 2018 Audi A4 4-door passenger car

VEHICLE NHTSA NUMBER: C20195805 TEST DATE: October 30, 2018

Method used to actuate interior trunk release: Slide

Can test personnel enter trunk and be closed within? Yes

Size of occupant: 6' 0", medium frame

Is there access to the trunk compartment by folding down rear seat or partition? Yes

Does release mechanism require electric power? No

Can release mechanism be easily seen inside the closed trunk? Yes

Method used by vehicle manufacturer to ensure that release mechanism
is visible in the closed trunk compartment: Phosphorescence

Laboratory test method used to determine visibility of release mechanism: Release mechanism
was visible from inside of trunk.

DATA SHEET 3 (Sheet 2 of 2)
MANUAL TRUNK RELEASE OPERATION

Vehicle Stationary (0 km/h)	Force in Newtons Required to Release Trunk Lid (no requirement)	Trunk Released from All Latching Positions	Pass/Fail
NO KEY IN IGNITION			
Attempt 1	11	Yes	Pass
Attempt 2	13	Yes	Pass
Attempt 3	12	Yes	Pass
Average	12	Yes	Pass
ENGINE IDLING			
Attempt 1			
Attempt 2			
Attempt 3			
Average			

TEST RESULTS

PASS

REMARKS: Engine idling testing was N/A

RECORDED BY: Joshua Campbell and Kerrin Bressant

DATE: October 30, 2018

APPROVED BY: Kerrin Bressant

SECTION 4
TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

EQUIPMENT	DESCRIPTION	MODEL/ SERIAL NO	CAL. DATE	NEXT CAL. DATE
SHIMPO	DIGITAL MULTI METER 756202	FGV-200HX	04/13/2006	04/12/2008

SECTION 5
PHOTOGRAPHS



2018 TESLA 3
NHTSA NO. C20194500
FMVSS NO. 401

FIGURE 5.1
FRONT OF VEHICLE



2018 TESLA 3
NHTSA NO. C20194500
FMVSS NO. 401

FIGURE 5.2
LEFT SIDE VIEW OF VEHICLE



2018 TESLA 3
NHTSA NO. C20194500
FMVSS NO. 401

FIGURE 5.3
RIGHT SIDE VIEW OF VEHICLE



2018 TESLA 3
NHTSA NO. C20194500
FMVSS NO. 401

FIGURE 5.4
LEFT REAR QUARTER VIEW



2018 TESLA 3
NHTSA NO. C20194500
FMVSS NO. 401

FIGURE 5.5
RIGHT REAR QUARTER VIEW

07/18

MFD BY TESLA, INC.

GVWR	WITH TIRES		
2180 kg (4806 lb)	235/45R18		
GAWR FRT	WITH TIRES	RIM	COLD TIRE PRESSURE
1110 kg (2447 lb)	235/45R18	18X8.5 J	310 kPa, 45 psi
GAWR RR	WITH TIRES	RIM	COLD TIRE PRESSURE
1257 kg (2771 lb)	235/45R18	18X8.5 J	310 kPa, 45 psi

THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY, BUMPER, AND THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

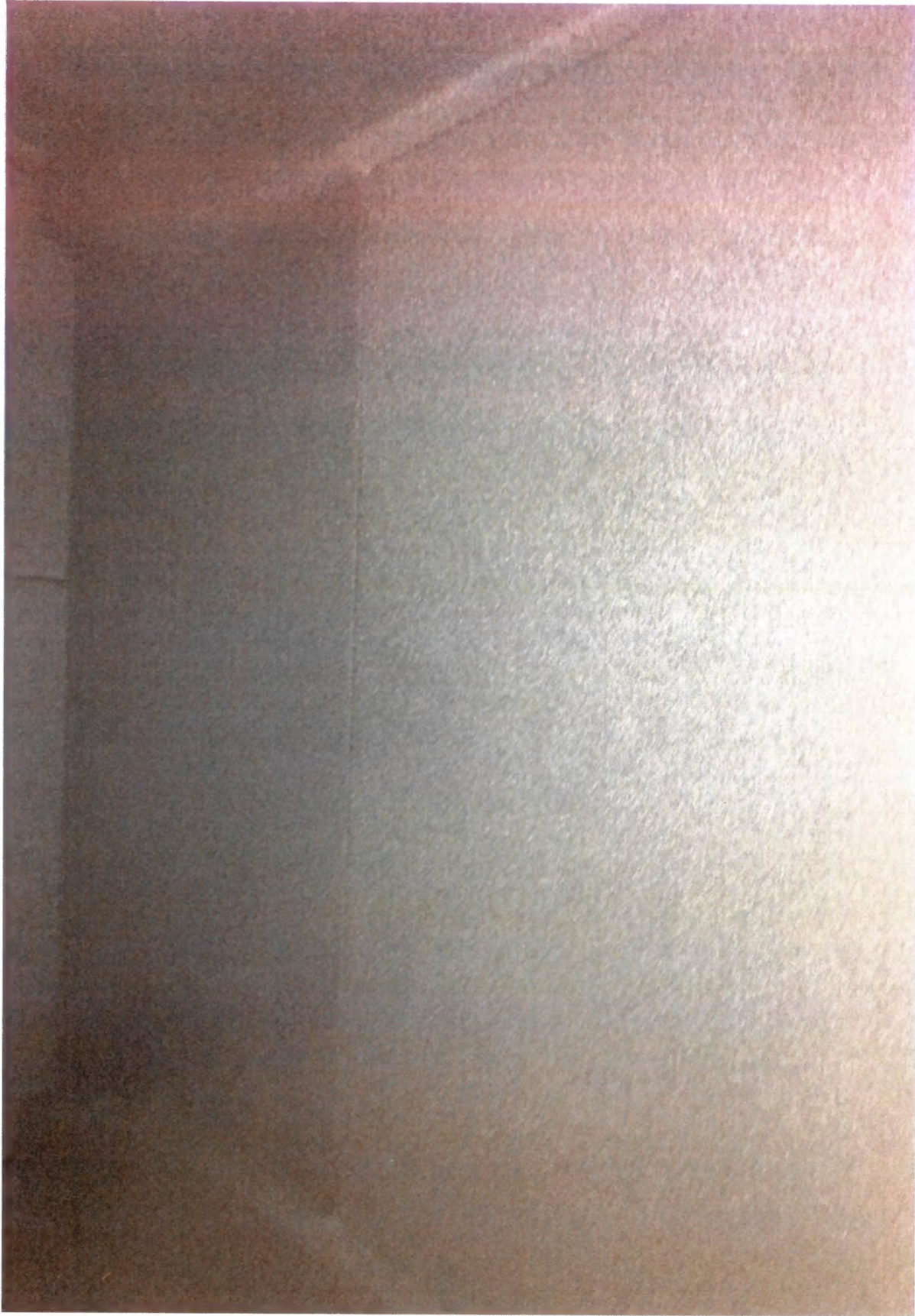
PNT: PMNG

VIN: 5YJ3E1EAXJF056732

TYPE: PASSENGER CAR

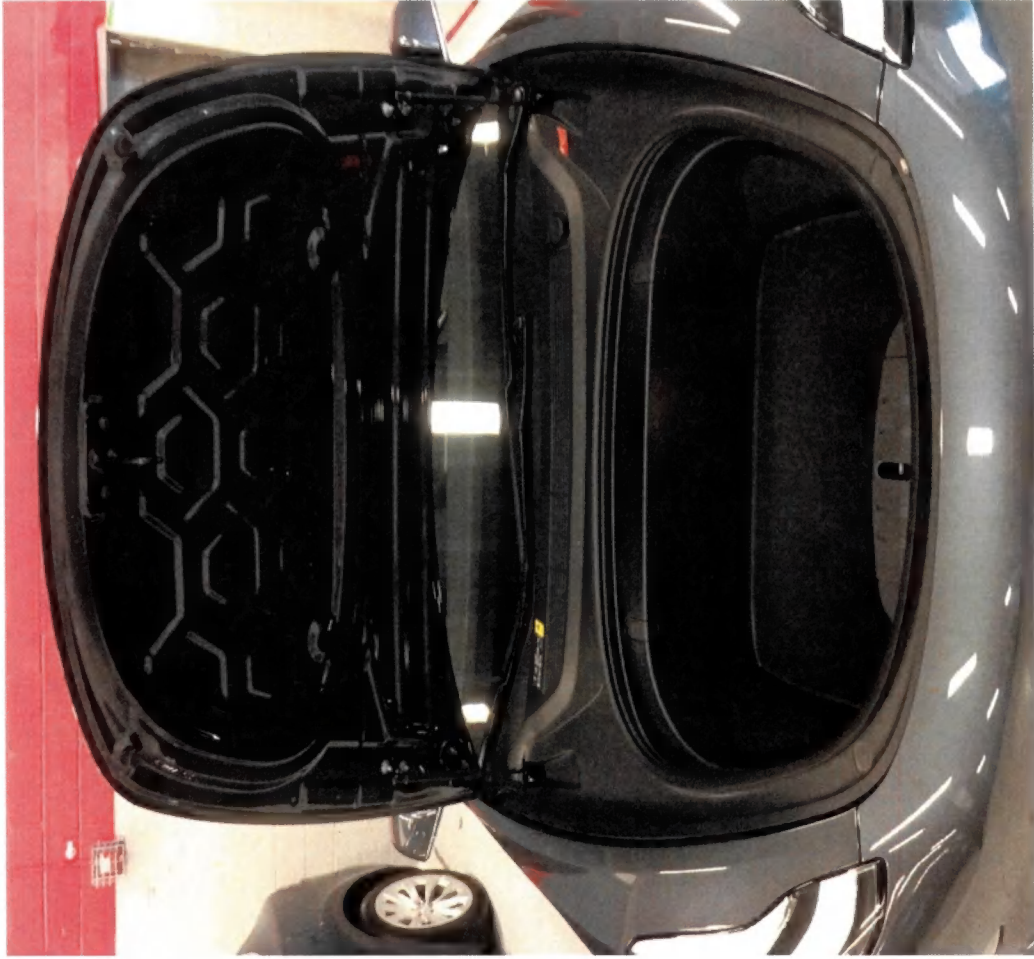
2018 TESLA 3
 NHTSA NO. C20194500
 FMVSS NO. 401

FIGURE 5.6
 VEHICLE CERTIFICATION LABEL



2018 TESLA 3
NHTSA NO. C20194500
FMVSS NO. 401

FIGURE 5.7
VEHICLE TRUNK COMPARTMENT INTERIOR



2018 TESLA 3
NHTSA NO. C20194500
FMVSS NO. 401

FIGURE 5.8
VEHICLE "FRUNK" (FRONT TRUNK COMPARTMENT)



2018 TESLA 3
NHTSA NO. C20194500
FMVSS NO. 401

FIGURE 5.9
CHARGING EQUIPMENT



2018 TESLA 3
NHTSA NO. C20194500
FMVSS NO. 401

FIGURE 5.10
TRUNK LID EXTERIOR